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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,839	09/30/2003	Salih B. Gokturk	S01-264/US	3053

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LUMEN INTELLECTUAL PROPERTY SERVICES, INC.  
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EXAMINER
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SCHAFFER, JONATHAN C

ART UNIT	PAPER NUMBER
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2624

MAIL DATE	DELIVERY MODE
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06/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/676,839

Applicant(s)

GOKTURK ET AL.

Examiner

Jonathan C. Schaffer

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/13/2004 & 9/30/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 13, 15-20, 28, 29-34, 42 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al (U.S. Patent Number 5,891,030).

3. Regarding claims 1, 16 and 30, Johnson teaches a method for detecting and classifying a shape in a medical image. Specifically Johnson discloses generating a plurality of 2-D sections through a 3-D volume as can be seen in figures 4-6. Further Johnson discloses detecting and estimating features of the shape of the colon (Fig. 5-7c & col. 2, l. 31-33). Johnson generates a shape signature based on the estimated features (Fig. 7a-7c & col. 2, l. 31-40), and then classifies the shape of the colon with the midline approximation (col. 2, l. 31-40).

4. Regarding claims 2, 17 and 31, Johnson discloses the 2-D sections differing from each other in position and orientation (Fig. 5).

5. Regarding claims 3, 18 and 32, Johnson teaches the casual selection of the 2-D sections of interest (col. 3, l. 6-14).

6. Regarding claims 4, 19 and 33, Johnson teaches the plurality of 2-D sections being a plurality of triples of mutually orthogonal planes (Fig. 5), exemplified by the vertical, horizontal and cross sectional views.

7. Regarding claims 5, 20 and 34, see the rejections of claims 3 and 4.

8. Regarding claims 13, 28 and 42, Johnson discloses distinguishing a polyp from a non-polyp (Fig. 5).

9. Regarding claims 15, 29 and 44, Johnson teaches obtaining the medical image through computed tomography colonography (col. 2, l. 15-40).

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10. Claims 1, 6-12, 14, 16, 21-27, 30, 35-31 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Hibbard (U.S. Patent Number 6,249,594).

11. Regarding claims 1, 16, and 30, Hibbard discloses detecting and classifying a shape in a medical image. Specifically Hibbard discloses generating a plurality of 2-D sections through a 3-D volume as can be seen in figures 4a-6f. Further Hibbard discloses detecting and estimating features of the (Fig. 1 & 4a-6f). Hibbard generates a shape signature based on the estimated features (col. 6, l. 1-15), and then classifies the shape (Fig. 1-2).

12. Regarding claims 6, 21 and 35, Hibbard discloses a statistically complete description of each feature (col. 8, l. 54-56).

13. Regarding claims 7, 22 and 36, Hibbard discloses the feature estimation comprising fitting one or more lines (Fig. 4a-6f).

14. Regarding claims 8, 23, and 37, Hibbard discloses a statistically complete description of each feature, in each class, which is given by the feature's probability density or histogram (col. 8, l. 54-56).

15. Regarding claims 9, 24, 38, Hibbard discloses using vector quantization in determining the shape (col. 8, l. 59-67).

16. Regarding claims 10, 25, 39, Hibbard does not explicitly state the use of a SVM classifier, but Hibbard does describe the implementation of a SVM classifier (col. 9-22).

17. Regarding claims 11, 26, 40, Hibbard discloses optimizing the classifier with training data (col. 7, l. 11-42).

18. Regarding claims 12, 27, 41, Hibbard discloses using the knowledge of the parametric representation of boundary shapes which reads on, the classified shape being used as training data for the classifier (col. 8, l. 26-27). In addition Hibbard discloses the use of prior shape information (col. 8, l. 20-24).

Regarding claims 14 and 43, Hibbard discloses that before a shape is classified the shape is selected by a pre-detection process by using the boundary contours which match the prior shape information (col. 8, l. 11-24).


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan C. Schaffer whose telephone number is (571)272-0603. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571)272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS

  
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